

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Problem Image Mailbox.**

>AY029200 ACCESSION:AY029200 NID: gi 20384653 gb AY029200.1 Homo
sapiens two-pore calcium channel protein 2 mRNA, complete
cds

Length = 2939

Identities = 222/223 (99%), Positives = 222/223 (99%)
Frame = +3

Query: 263 WRPEMVGLLSLWDMTRMLNMLIVFRFLRIIPSMKPMVAVASTVLGLVQNMRAFGGILVVV 322
WRPEMVGLLSLWDMTRMLNMLIVFRFLRIIPSMKPMVAVASTVLGLVQNMRAFGGILVVV
Sbjct: 1689 WRPEMVGLLSLWDMTRMLNMLIVFRFLRIIPSMKPMVAVASTVLGLVQNMRAFGGILVVV 1868

Query: 323 YYVFAIIGINLFRGVIVALPGNSSLAPANGSAPCGSFEQLEYWANNFDDFAAALVTLWNL 382
YYVFAIIGINLFRGVIVALPGNSSLAPANGSAPCGSFEQLEYWANNFDDFAAALVTLWNL
Sbjct: 1869 YYVFAIIGINLFRGVIVALPGNSSLAPANGSAPCGSFEQLEYWANNFDDFAAALVTLWNL 2048

Query: 383 MVVNNWQVFLDAYRRYSGPWSKIYFVLWWLVSSVIWVNLFLALILENFLHKWDPRSHLQP 442
MVVNNWQVFLDAYRRYSGPWSKIYFVLWWLVSSVIWVNLFLALILENFLHKWDPRSHLQP
Sbjct: 2049 MVVNNWQVFLDAYRRYSGPWSKIYFVLWWLVSSVIWVNLFLALILENFLHKWDPRSHLQP 2228

Query: 443 LAGTPEATYQMTVELLFRDILEEPGEDELTERLSQHPhlWLCR 485
LAGTPEATYQMTVELLFRDILEEP EDELTERLSQHPhlWLCR
Sbjct: 2229 LAGTPEATYQMTVELLFRDILEEPEEDELTERLSQHPhlWLCR 2357

Identities = 102/103 (99%), Positives = 102/103 (99%)
Frame = +1

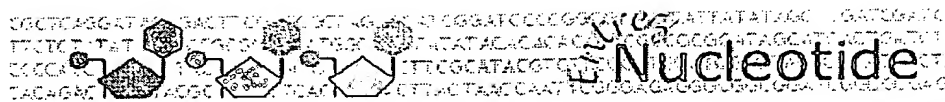
Query: 161 TRRG PSTSLRFCRAPSSSSATTTLTWTGTS SPWQTWCPFACSWCWMQMCCLLSVMTSSWG 220
TRRG PSTSLRFCRAPSSSSATTTLTWTGTS SPWQTWCPFACSWCWMQMCCLLSVMTSSWG
Sbjct: 1329 TRRG PSTSLRFCRAPSSSSATTTLTWTGTS SPWQTWCPFACSWCWMQMCCLLSVMTSSWG 1508

Query: 221 FSTASSLCTTCWSCCSRSLPWACEGTCPTPATCLTGSSPLSCW 263
FSTASSLCTTCW CCSRSLPWACEGTCPTPATCLTGSSPLSCW
Sbjct: 1509 FSTASSLCTTCWRCCSRSLPWACEGTCPTPATCLTGSSPLSCW 1641

Identities = 113/114 (99%), Positives = 114/114 (100%)
Frame = +3

Query: 48 QQDDGQDRERLTYFQNLPESLTSLLVLLTTANNPDVMI PAYS KN RAYAIFFIVFTVIGSL 107
+QQDDGQDRERLTYFQNLPESLTSLLVLLTTANNPDVMI PAYS KN RAYAIFFIVFTVIGSL
Sbjct: 825 QQDDGQDRERLTYFQNLPESLTSLLVLLTTANNPDVMI PAYS KN RAYAIFFIVFTVIGSL 1004

Query: 108 FLMNLLTAIIYSQFRGYLMKSLQTS LFRRRLGTRAAFEVLSSMVGEGGAFPQA 160
FLMNLLTAIIYSQFRGYLMKSLQTS LFRRRLGTRAAFEVLSSMVGEGGAFPQA
Sbjct: 1005 FLMNLLTAIIYSQFRGYLMKSLQTS LFRRRLGTRAAFEVLSSMVGEGGAFPQA 1177



PubMed

Nucleotide

Protein

Genome

Structure

PMC

Taxonomy

OMIM

Bio

Search for

Go

Clear

Limits

Preview/Index

History

Clipboard

Details

Display

Show:

Send to

Get Subsequence

Fe

☐ 1: AY029200. Homo sapiens two-pore calcium channel protein 2 mRNA, complete cds. [gi:20384653]

Links

LOCUS AY029200 2939 bp mRNA linear PRI 01-MAY-2002
DEFINITION Homo sapiens two-pore calcium channel protein 2 mRNA, complete cds.
ACCESSION AY029200
VERSION AY029200.1 GI:20384653
KEYWORDS
SOURCE Homo sapiens (human)
ORGANISM Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE 1 (bases 1 to 2939)
AUTHORS Zhu, M.X.
TITLE Molecular cloning of a novel two-pore calcium channel protein
JOURNAL Unpublished
REFERENCE 2 (bases 1 to 2939)
AUTHORS Zhu, M.X.
TITLE Direct Submission
JOURNAL Submitted (03-APR-2001) Neurobiotechnology Center, The Ohio State
University, 168 Rightmire Hall, 1060 Carmack Road, Columbus, OH
43210, USA

FEATURES

source

Location/Qualifiers

1..2939

/organism="Homo sapiens"

/mol_type="mRNA"

/db_xref="taxon:9606"

/chromosome="11"

/map="11q13"

CDS

102..2360

/note="TPC2"

/codon_start=1

/product="two-pore calcium channel protein 2"

/protein_id="AAK31802.1"

/db_xref="GI:20384654"

/translation="MAEPQAESEPLLGGARGGGGDPAGLTTYRSIQVGPAAARWDL
CIDQAVVFIEDAIQYRSINHRVDASSMWLYRRYYSNVCQRTLSFTIFLILFLAFIETP
SSLTSTADVRYRAAPWEPPCGLTESVEVLCLLVFAADLSVKGYLFGWAHFQKNLWLLG
YLVLVSLVDWTVSLSLVLCHEPLRIRRLRPFFLLQNSSMMKKTLKIRWSLPEMAS
VGLLLAIHLCLFTMFGMLLFAGGKQDDGQDRERLTYFQNLPELSTSLVLLTTANNPD
VMIPAYSKNRAYAIAFFIVFTVIGSLFLMNLTTAIYISQFRGYLMKSLQTSFRRRLGT
RAAFEVLSSMVGEGGAFPAVGVPQNLLQVLQKVQLDSSHKQAMMEKVRYSYGSVLLS
AEEFQKLFNELDRSVVKEHPPRPEYQSPFLQSAQFLFGHYFYDYLGNLIALANLVSIC
VFLVLDADVLPAERDDFILGILNCVFIVYYLLEMLLKVFALGLRGYLSYPSNVFDGLL
TVVLLVLEISTLAVYRLPHPGWRPEMVGLLSLWDMTRMLNMLIVFRFLRIIPSMKPM
VASTVLGLVQNMRAFGGILVVVVYVFAIIGINLFRGVIVALPGNSSLAPANGSAPCG
SFEQLEYWANNFDDFAAALVTLWNLMVNNWQVFLDAYRRYSGPWSKIYFVLWWLVSS
VIWVNLFLALILENFLHKWDPRSHLQPLAGTPEATYQMTVELLFRDILEEPEEDELTE
RLSQHPHLWLCLR"

BASE COUNT 515 a 833 c 882 g 709 t

ORIGIN

```
1 agcaagaacg ccagggacgg ggtctccgcg cctgcgcagt gaagctgggc gccttcgggg
61 cttgagcttc tgagggtcgg gtccagcgcg tgggctgctg gatggcgga cccagggcgg
121 agtcggagcc cctgctgggc ggggcccgcg gcggtggcgg cgactggccg gcggggctga
181 ccacttacgg cagcatccaa gtccggccctg gtgccgcggc caggtgggac ctctgcattg
241 atcaggctgt ggtcttcacg gaagatgcta ttcagtaccg ctccatcaac caccgggtgg
301 atgccagctc gatgtggctt taccgacggg attactcgaa cgtatgccaa cggactttga
361 gcttcaccat cttcttgatc ctgtttttgg cttttatcga gaccccatcc tcaactacca
421 gcacggcggg cgtgcgctac cgcgctgcc cctgggagcc gccctgcggc ctgaccgaga
481 gtgtcgaggt gctctgcctg ctggctcttg cgcccgacct ctctgtgaag ggttacctgt
541 tcgggtgggc ccatttcag aaaaaccttt ggctgctggg ctacctcgtg gtgctgggtg
601 tgtctctggt ggactggacc gtgtccctga gtctcgtgtg tcatgagccc ctgcggtacc
661 gccggcttct ccgtcccttc ttcctgctgc agaactcctc tatgatgaag aagaccttga
721 aatgcatccg ctggtcgcgt cgggaaatgg ccagcgtcgg gctgctgctg gccatccacc
781 tgtgcctctt caccatgttc ggaatgctgc tgttcgctgg tgggaagcag gatgatgggc
841 aggacaggga gaggtgacc tacttcaga acctgcctga gtctctgact tccctcctgg
901 tgctgctgac cacggccaac aaccccgatg tgatgattcc tgcgtattcc aagaaccggg
961 cctatgccat cttcttcata gtcttactg tgataggaag cctgtttctg atgaacctgc
1021 tgacagccat catctacagt cagttccggg gctacctgat gaaatctctc cagacctcgc
1081 tgtttcggag gcggctggga acccgggctg cctttgaagt cctatcctcc atggtggggg
1141 agggaggagc cttccctcag gcagttgggg tgaagcccca gaacttgctg caggtgcttc
1201 agaaggcca gctggacagc tcccacaaac aggccatgat ggagaagggt cgttcctacg
1261 gcagtgttct gctgtcagct gaggagtctt agaagctctt caacgagctt gacagaagtg
1321 tggttaaaga gcacccgccc agggccgagt accagtctcc gtttctgcag agcgccagt
1381 tcctcttcgg ccaactactac tttgactacc tggggaacct catcgccctg gcaaacctgg
1441 tgtccatttg cgtgttcctg gtgctggatg cagatgtgct gcctgctgag cgtgatgact
1501 tcactcctgg gattctcaac tgcgtcttca ttgtgtacta cctgttgagg atgctgctca
1561 aggtccttgc cctgggctcg cgagggctacc tgtcctacct cagcaacgtg tttgacgggc
1621 tcctcaccgt tgtcctgctg gttttggaga tctcaactct ggctgtgtac cgattgccac
1681 acccaggctg gagggcggag atggtggggc tgcgtcgtc gtgggacatg acccgcatgc
1741 tgaacatgct catcgtgttc cgcttcctgc gtatcatccc cagcatgaag ccgatggccg
1801 tgggtggccag taccgtcctg ggctggtgc agaacatgcg tgcttttggc gggatcctgg
1861 tgggtggtcta ctacgtattt gccatcattg ggatcaactt gtttagaggc gtcattgtgg
1921 ctcttcctgg aaacagcagc ctggcccctg ccaatggctc ggcgccctgt gggagcttcg
1981 agcagctgga gtactgggcc aacaacttcg atgactttgc ggctgcctg gtcactctgt
2041 ggaacttgat ggtggtgaac aactggcagg tgtttctgga tgcataatcg cgctactcag
2101 gccggtggtc caagatctat tttgtattgt ggtggctggt gtcgtctgtc atctgggtca
2161 acctgtttct ggccctgatt ctggagaact tccttcacaa gtgggacccc cgcagccacc
2221 tgcagcccct tgcgtgggacc ccagaggcca cctaccagat gactgtggag ctctgttca
2281 gggatattct ggaggagccc gaggaggatg agctcacaga gaggtgagc cagcaccgcg
2341 acctgtggct gtgcagggtg cgtccgggct gccgtcccag caggggcggc aggagagaga
2401 ggctggccta cacagggtgc cgtcatggaa gaggcggcca tgcgtggcc agccaggcag
2461 gaagagacct ttctctgac ggaccactaa gctggggaca ggaaccaagt ctttgcgtg
2521 tggcccaaca accgtctaca gaacagctgc tgggtgcttc gggaggcgcc gtgcctcgc
2581 ctttctttta tagctgcttc agtgagaatt ccctcgtcga ctccacagg acccttcaga
2641 caaaaatgca agaagcagcg gcctcccctg tcccctgcag cttccgtggt gcccttgctg
2701 ccggcagccc ttggggacca caggcctgac cagggcctgc acagggttaac cgtcagactt
2761 ccggggcatt caggtgggga tgcgtgggtg ttgacatgga gagaacctg actgtgtttt
2821 attatttcat ggcttgatg agtggtgact ggtgtgttct tttagggttc tgattgccag
2881 ttattttcat caataagtct tgcaaagaat gggattgtca ttcttcaact cgaaaaaaa
```

//

[Disclaimer](#) | [Write to the Help Desk](#)
[NCBI](#) | [NLM](#) | [NIH](#)